

# NATURAL RESOURCES

## AT ELLANOR C. LAWRENCE PARK

### FORESTS

The park's 2nd and 3rd growth forest includes coniferous, mixed deciduous/coniferous, and deciduous stands. There are two coniferous stands in the park. One consists of dense eastern red cedar that has reclaimed an old field and the other is primarily Virginia pine. As a pioneer species, the Virginia pine colonizes areas that were once cleared for farming. Mixed pine and deciduous stands are also common. Virginia pine stands can be found among the oaks and hickories. In these areas forest succession is occurring in various stages. Eventually, young oaks and hickories will overtake the Virginia pine.

Mature Oak/Hickory stands are found in some upland areas of the park. A significant transition occurs from the upland forest to the bottomland forest along stream valleys. Here, sycamore, birch, oak, maple, and tulip trees dominate the forest canopy. Christmas ferns and spicebush grow along the stream banks.

There are also a significant number of Virginia pine blow downs in these areas as a result of storms in the early and mid 1990's. Forest succession is slowed in these areas from the lack of hardwood regeneration. The blow downs are extremely dense and restrict animal movement.

Park staff may be removing Virginia pine blow downs to promote oak and hickory growth and to reduce the excessive amount of fuel for forest fires. Invasive and exotic species are being mechanically removed where possible to increase diversity and an abundance of native plants and shrubs.



### STREAMS

The park lies within the Chesapeake Bay watershed. It is drained by approximately five streams which range from first to third orders. Big Rocky Run, Walney Creek, and Round Lick Run are the primary drainages. Park staff monitor the biological indicators of Walney Creek and Big Rocky Run to determine their ecological health. The Walney Creek watershed is contained entirely within the park and is relatively free from human disturbances. It is a non-impaired, ecologically healthy stream that supports a variety of sensitive species at different trophic levels. Big Rocky Run flows from east to west through the southern portion of the park and is a moderately impaired stream. Although it supports a high number of fish species, the variety and number of macroinvertebrate organisms are few.

The physical characteristics and local land uses affect a stream's ecological health. Development along the Big Rocky Run watershed has impacted the physical characteristics of the habitat. During periods of heavy rain and snowmelt, storm water runoff increases the water flow causing bank erosion, channel deepening and widening, silt deposition, and temperature fluctuation. A chemical monitoring program is being initiated to monitor potential nutrient loading from non-point pollution sources for both streams. Riparian restoration projects are also being considered to help increase the overall health of Big Rocky Run.



### WALNEY POND

Walney Pond is a one acre man-made containment pond that was excavated in the 1950's. As part of the rural landscape, for many years it was used as a local fishing hole and sometimes for ice skating. By the early 1990's, the pond had filled in with sediment.

The pond had to be drained as part of a sewer line replacement project in 1995. The Park Authority took advantage of this opportunity to remove accumulated sediments, re-grade and reshape the features. The pond is now larger, deeper (13ft), and shaped differently.

A variety of native aquatic and emergent plants, shrubs, and trees were planted. A marsh like setting exists in the shallow end of the pond.

Largemouth bass, channel catfish, and sunfish are restocked. Special features include a picnic shelter, a boardwalk, two deck platforms, nest boxes, and informational and interpretive signs.

The pond's main source of water is surface runoff from a housing development adjacent to the park. There are concerns that excessive nutrient loads from lawn fertilizer has contributed to the heavy algal and submerged aquatic vegetation growth in the pond in the late 1990's. Park staff has taken steps in the last several years to improve the overall health of the pond.

With periodic renovations it is hoped that Walney Pond will continue to serve the community through provision of wildlife habitat, environmental education, recreation, and as part to the landscape.



### MEADOWS

Contrasting sharply with the adjacent oak/hickory forest, the park's meadows provide grass dominant and forest edge habitats. In grass dominant ecosystems, grasses provide the framework on which plant and animal communities are built. The grasses in the meadow consist of fescue, bluestem, indian, eastern gamma, switch, and purple top. Various species of wildflowers bloom from early spring to late fall .



FAIRFAX COUNTY PARK AUTHORITY